REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of June 2, 2005.

Reconsideration of the Application is requested.

The Office Action

The Examiner rejected all pending claims 1-32 for being anticipated by the teachings of a particular prior art reference to Falk (U.S. Patent 6,141,120).

The Present Application

The present application is directed to recovering from common "mis-orientations" of the target on the measurement stage through a process of reordering the measurements, i.e., the user mistakenly "flips" either the system output sheet or calibration test sheet in the calibration process so they are either 90° or 180° out of order and no meaningful calibration on the system can be performed. Characterization software generates a target with a set of color patches specified in terms of DPS control values (e.g., CMYK signals). The printed target is measured by a measurement stage. The measured values are provided to the characterization software. The software uses the correspondence between the target control values and the DPS measured values to derive the DPS characterization profile or calibrating function. Computation of the calibrating function requires an accurate correspondence between the particular order of printing and measuring as the same set of patches may be measured in many different ways. If it is determined that the measurement order is incorrect, the system re-orders the measurement into a correct measurement order instead of time-consuming re-measurement. The measurement re-ordering may be guided either by a visual confirmation from a user or through an automatic correlation of the color measurements and the device control values.

The Cited Reference

Falk is directed to translating RGB values into density values. Falk discloses a calibration image 500 which is scanned in to produce a scanned calibration image 205. The scanning of the test strip 600 produces scanned strip 216. The test strip 600 is a standard test strip which has a plurality of gray scale patches 601 each having a known absolute density value. A scanner profile module 207 compares scanned test strip data 216 with the test strip density file 205 to determine a mapping between the scanned RGB data 500 and absolute density. Scanner profile

compensates each gray scale patch 601 to adjust for differences in scanning gray values as opposed to scanning pure CMYK toner values. Print density module 217 generates a printer profile 214 by using the calibration data 204, calibration image 215 and RGB to density converting map of the scanner profile 207. Calibration profile set 211 is generated using characterization profile set 208 and printer profile 214. A user may edit characterization profile set 208 after which calibration system 200 generates an updated calibration profile 212.

It is important for the Examiner to note with reference to FIG. 5 that calibration image 500 includes an orientation arrow 503, as well as registration marks 502. Both the arrow and the registration marks are required to establish an orientation for the calibration process (col. 8, lines 7-10).

In discussing an alternative embodiment, the specification states that where a pseudo-random sequence of test patches is desired, an "arrangement key" is printed on the calibration image so that the calibration system can generate the same sequence (col. 5, lines 33-47).

In yet another embodiment, where the calibration patches are inverted in a mirror image, the system must so detect that the inversion option has been selected to that the "image has the proper orientation and can be included in the calibration process" (col. 5, lines 47-65).

In the Applicants last response to the first Examiner's Action, the Applicants requested the Examiner to cite in the specification of Falk any teachings of the capability of Falk to identify a mismatch in orientation and then a capacity for re-ordering of the test patch data to achieve a proper orientation match so that the calibration process can proceed. The Examiner was unable to respond to Applicants' request and again merely responded that the cited reference allows "a user to adjust in accordance with the measured color densities".

The adjustment process in Falk has nothing to do with detecting mis-orientation, and re-ordering the test data to achieve a proper orientation. The adjustment process in Falk merely deals with adjusting stored calibration profiles based upon the existent measurement data of the most recent test (col. 8, lines 40-46). This is not orientation adjustment as called for in the pending claims. The reference clearly indicates that the user must match the "placement information that instructs a user where to place test strip 600 and where to place a color control test strip so that both can be located in scanned data." (col. 7, lines 23-26) If a user were not to place the strip properly, i.e., the problem sought to be overcome by the subject application, the calibration process of Falk would certainly fail – or at least there is no teaching in the reference in how to deal with such a situation.

Claims 1-10 Distinguish Over the Reference

The Examiner will appreciate that claim 1 has been slightly amended to more clearly indicate what is meant by "mismatch" in the claim. "Mismatch" is now modified to comprise a situation where there is a mismatch in relative orientation between system output and test target elements. **[This does not comprise a new issue requiring further consideration and search – note similar language in claim 23.]** Claim 1 thus includes two elements not shown or suggested in the reference, (1) the measuring of a mismatch in relative orientation and (2) a re-ordering of the measured output elements for matching the relative orientation. Applicants again point the Examiner to the orientation arrow 503 and registration mark 502 of FIG. 5 which are clearly necessary or would not be included. Falk is incapable of detecting a mismatch in relative orientation based upon test patch data alone and is certainly incapable of re-ordering the data to compensate for the detected mismatch.

Certain of the dependent claims merit specific comment, including claim 2 where the mismatch is further defined as a sequential order of measuring of target elements, or as in other dependent claims, value measurements exceeding thresholds to indicate the mismatch.

Claims 12-19 Distinguish Over Prior Art

Claim 12 calls for among other elements: identifying a mis-ordering of the measurements of the target elements in the DPS output from a desired order of measurement, and re-ordering the measurement of the target elements of the DPS output in accordance with the desired order thereby facilitating use of the measurements without requirement of re-measurement. The arguments above regarding claim 1 are equally applicable here. Nowhere does Falk disclose or suggest determining a mis-ordering of the measurements and re-ordering the measurements in the desired order. It is therefore respectfully submitted that claim 12 and dependent claims 13-19 distinguish patentably over Falk.

Claims 20-22 Distinguish Over Prior Art

Claim 20 calls for among other elements: an error identifier indicating a mismatch between the selected sequence of target elements and corresponding sequence of output elements attributable to a mis-ordering of the sensing of the output elements relative to the selected sequence of target elements for the comparison; and, an adjuster for re-ordering the output for the comparison whereby the computing is based on a correct sequencing of the output elements and the target elements. It is

alleged in the Office Action that claim 20 is rejected for the same reason as claim 1. After carefully reviewing Falk, Applicants could not find reference to a module that identifies a mismatch between the selected sequence of target elements and corresponding sequence of output elements attributable to a mis-ordering of the sensing of the output elements and to another module that consequently re-orders the output based on a correct sequencing of the output elements and the target elements. Nowhere does Falk disclose or suggest such a system. If Examiner carries on the above interpretation of Falk, Applicants respectfully request the Examiner provide a reference as to where exactly Falk discloses at least the above cited elements of claim 20. For the reasons stated, it is respectfully submitted that claim 20 and dependent claims 21-22 distinguish patentably over Falk.

Claims 23-28 Distinguish Over Prior Art

Claim 23 calls for among other elements: identifying a mis-ordering of the measurements of the target in the DPS output from a desired order of measurement; based on the identified mis-ordering, providing to a user of the DPS a representation of the correct corresponding measuring process including a desired position of the output orientation and order of measurement; and visually validating by the user of the selected position relative to the representation. Falk is directed to translating RGB values into density values. A printer profile 214 is generated by using the calibration data 204, scanned calibration image 215 and RGB to density converting map of the scanner profile 207. Once printer profile 214 is generated, calibration profile set 211 is generated using characterization profile set 208 and printer profile 214. A user may edit characterization profile set 208 after which calibration system 200 generates an updated calibration profile 212. Nowhere does Falk disclose or suggest estimating an error between the actual measurement and the target; based on the estimated error, presenting a user with a correct layout which corresponds to the target, and wherein the user visually checks out the presented layout against the physical target. It is therefore respectfully submitted that claim 23 and dependent claims 24-28 distinguish patentably over Falk.

Claims 29 and 31-32 Distinguish Over Prior Art

Claim 29 calls for among other elements: extracting a subset of control files which are available at the measuring device and highly probable to include a correct output layout and measurement order for presentation to the user. Falk is directed to translating RGB values into density values. A printer profile 214 is generated by using the calibration data 204, scanned

calibration image 215 and RGB to density converting map of the scanner profile 207. Once printer profile 214 is generated, calibration profile set 211 is generated using characterization profile set 208 and printer profile 214. A user may edit characterization profile set 208 after which calibration system 200 generates an updated calibration profile 212. Nowhere does Falk disclose or suggest extracting files that most likely include a correct layout and measurement order and presenting the control files to the user for a visual validation as claimed in claim 29. It is therefore respectfully submitted that claim 29 and dependent claims 31-32 distinguish patentably over Falk.

Response to Examiner Arguments

The Examiner has cited a case precedent for the proposition that if the prior structure is capable of performing the intended use, then it can meet a claim. The intended use must result in a manipulative difference as compared to the prior art.

The pending claims all require a completely novel manipulative difference than what is taught or suggested in Falk. That is, there must not only be a detection of a mismatch of relative order of test patches and system outputs, there must also be a processing of the test data to effect realignment so that the test targets and outputs match in relative orientation. Falk is clearly incapable of performing this intended use or accomplishing this manipulative difference. Falk requires matched orientation as indicated by orientation arrow 503 and registration marks 502 to affect the calibration process taught therein. The vague and generic citation to Falk for its adjustment process as in any way suggestive of the mismatch detection and re-orientation of test data as claimed in the pending claims is clearly erroneous.

CONCLUSION

For the reasons detailed above, it is submitted all claims remaining in the application (Claims 1-29 and 31-32) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Patrick R. Roche, at Telephone Number (216) 861-5582.

Respectfully submitted,

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12/2/05
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